



Many Voices Working for the Community

Advocate

EM Waste Management Facility: One Step Closer to Reality

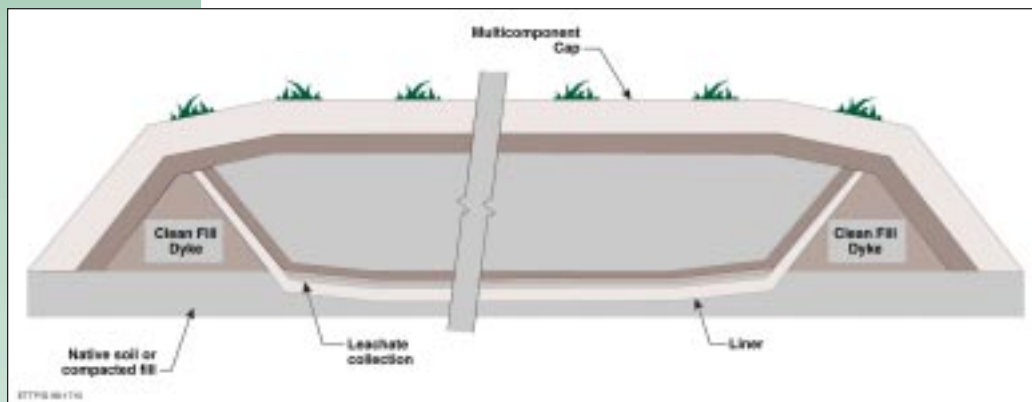
An on-site waste management facility for low- and mixed low-level wastes stemming from environmental cleanup on the Oak Ridge Reservation is a step closer to reality, following the release of a revised proposed plan by DOE to the regulators for review.

DOE has sponsored a number of workshops in recent months to review the waste disposal options with stakeholders. One such meeting

its Waste Cell Management Project Team. Team member Steve Kopp says that DOE has successfully resolved most of the regulatory issues raised by the State of Tennessee. One significant remaining issue continues to be whether or not the federal government will guarantee perpetual care of the facility.

Kopp also indicated that the team has reviewed and provided comments on draft DOE Order

435.1, which will establish new standards for storage and disposal of nuclear waste. Some provisions of this order, as proposed, could significantly impact the design and operation of the facility. Kopp says that there is a sense of urgency in resolving regulatory issues and in making key decisions regarding the facility. This is due in part to a potential "CERCLA waste bottle-



Cut-away view of the proposed waste disposal facility in eastern Bear Creek Valley shows the multilayered cap, designed to prevent water infiltration and animal intrusion into the waste cell.

neck" scenario. He explains that the question of low-level waste disposition must be resolved in order for the reservation's five watersheds to implement records of decision.

focused solely on determining the criteria to be used for accepting waste into the facility. In addition, Bechtel Jacobs Company LLC, management and integration contractor for the DOE EM Program, recently announced three subcontract awards for a 30% design of the facility.

The proposed facility would include a leachate collection and transfer system, access roads, storm water retention basins, and monitoring systems. A multilayered, multicomponent cap will be constructed as part of cell closure.

Issue 5
November 1998

ORREMSSAB first addressed an on-site disposal cell in 1997 and has since continued to track developments and advise DOE through

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Anatomy of a Waste Cell

DOE’s proposed waste cell for the Oak Ridge Reservation isn’t just another hole in the ground: it’s layer upon layer of protection for human health and the environment. The design includes a perimeter dike, a constructed underlying geologic buffer up to 10 ft thick, a 6-ft multilayer base liner, and a 16-ft multilayer cell cover.

The purpose of the perimeter dike is to provide stability and guard against erosion. The geologic buffer and multilayer base system reduce the potential for contaminants leaching into groundwater. The cell cover minimizes rainwater penetration into the closed cell, promotes drainage, and minimizes erosion of the cover.

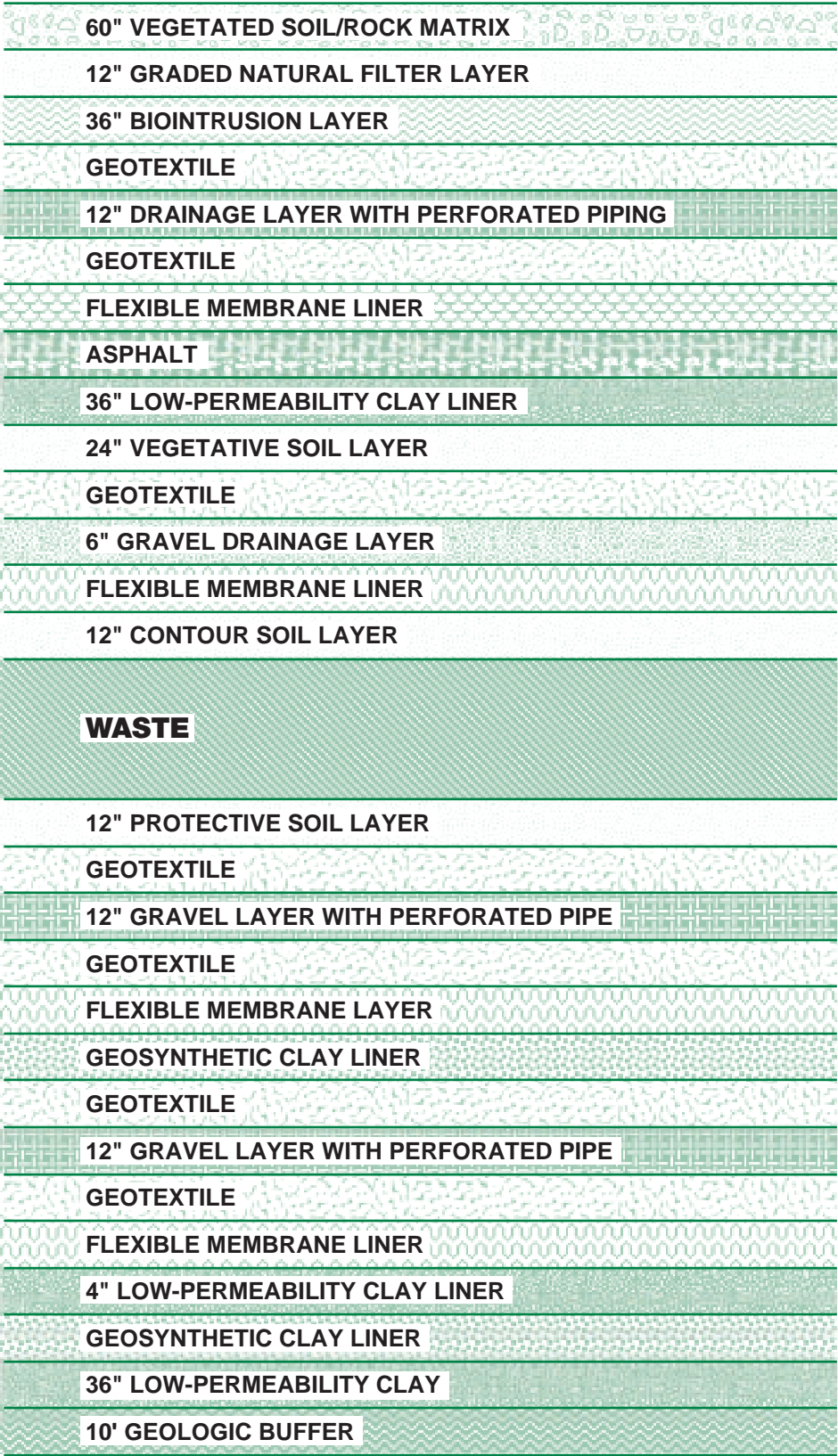
A RCRA-compliant interim cover will be installed as the cell is filled, and the final cover will not be installed until the cell has reached the end of its operational phase or has reached capacity. Final size of the cell would depend on the actual amount of waste anticipated: 22 acres for the low-end scenario and 44 acres for the high-end.

Waste Management Facility

continued from page 1

In its proposed plan, DOE selected on-site disposal as the preferred alternative over two others: “off-site disposal” and “no action.” On-site disposal offered protection comparable to off-site disposal but at a lower cost to taxpayers and with fewer transportation risks. Off-site disposal would still be required for certain wastes that do not meet waste acceptance criteria for the proposed disposal cell.

Under the “no action” alternative, no site-wide disposal strategy would be implemented; waste disposal would be addressed on a project-by-project basis, as is currently the case.

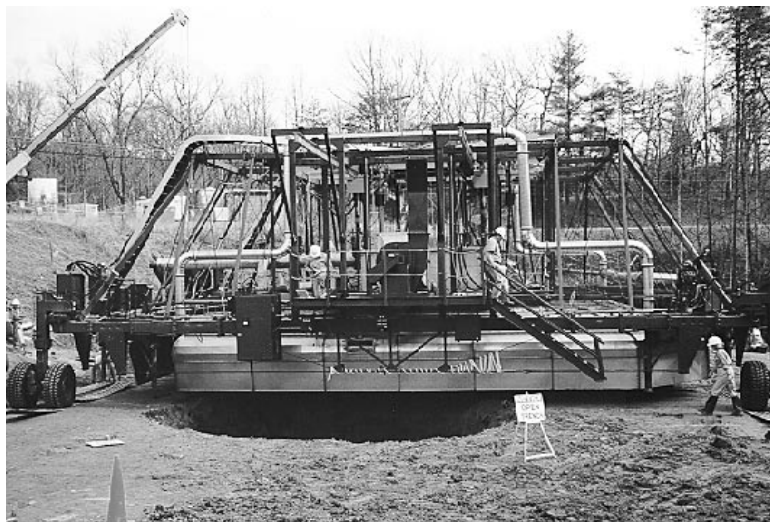


Layers of protection above and below. In the proposed Bear Creek Valley waste cell configuration, 14 layers above buried wastes and another 14 below offer maximum containment of low-level wastes.

Recent Recommendations and Comments

Use of In Situ Vitrification on the Oak Ridge Reservation

In situ vitrification (ISV) was chosen for use at Oak Ridge National Laboratory's Pit 1, and operations at the site began in November 1992. During the initial melt at the site in April 1996, a fire occurred, which was caused by an upheaval of steam and molten glass on and around the off-gas collection hood. Although no personnel injuries occurred,



and loss of off-gas containment was minimal, DOE decided not to complete the two remaining melts originally planned at Pit 1. Through study of that event and of the ISV technology, the ORREMSSAB Technology Development and Deployment Project Team drafted a recommendation on ISV use, which was approved by the Board and sent to DOE. Following is the text of the recommendation:

Members of the Oak Ridge Reservation Environmental Management Site Specific Advisory Board (ORREMSSAB) Technology Development and Deployment Project Team recently reviewed the *Proposed Plan for Bear Creek Valley at the Oak Ridge Y-12*

Plant, Oak Ridge, Tennessee (DOE/OR/02-1647&D3), in which in situ vitrification (ISV) is proposed for use in that watershed. As a result of study of that document and of ISV, ORREMSSAB recommends use of the technology in remediating appropriate Oak Ridge Reservation (ORR) sites and proposes that the U.S. Department of Energy (DOE) go forward with an incremental approach to ISV use on the reservation. By incremental, we mean starting with a single, modest-scale project in a carefully chosen

area. Study of the area is crucial due to the hydrogeological makeup of the ORR.

ORREMSSAB has studied ISV as a technology for application by DOE in remediation

of contaminated sites on the ORR. In February of this year the Technology Development and Deployment team hosted a public meeting on ISV at which representatives from the Geosafe Corporation presented a program on the technology and answered questions from the team, ORREMSSAB, and the public. We are acquainted with the results of the ISV demonstration at Oak Ridge National Laboratory in Melton Valley last year and with doubts about the technology in the minds of some members of the public.

Because ISV is proposed for use in Bear Creek Valley, we suggest the demonstration be held there. The ISV trial could be divorced from the

current Record of Decision for Bear Creek, allowing the demonstration to take place in the Bear Creek Valley Burial Grounds. Should this site prove unsuitable for hydrogeological or regulatory reasons, we recommend the demonstration go forward in another location on the ORR.

Comments on Draft DOE Order 435.1

DOE-Headquarters recently released a draft order and manual on radioactive waste management for public comment. The order sets forth the requirements that DOE programs must follow in managing radioactive waste and reflects advances in radioactive waste management practices and changes within DOE since the existing order was issued in 1988.

Because the order will have a bearing on the proposed on-site waste cell, the ORREMSSAB Waste Cell Management Project Team reviewed the draft order and made the following comments. (The following text is abridged; full text is available at the Information Resource Center in Oak Ridge.)

The Oak Ridge Reservation Environmental Management Site Specific Advisory Board (ORREMSSAB) concurs in general with the intent of draft DOE Order 435.1 and feels that it represents a very positive step toward more responsible waste management within the DOE complex. Overall, the Order seems reasonable. A "systems approach" is a good idea, although it is not well explained how the Order follows this approach. Following are general and specific comments on the Order and its *Radioactive Waste Management Manual* (DOE M 435.1).

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Project Team Update

ORREMSSAB project teams are the forums where issues affecting the Oak Ridge Reservation are studied and debated. Project teams meet monthly, or as necessary, and all meetings are open to the public. Meeting times and locations are available 24-hours a day through the ORREMSSAB information line: 423-576-4750. Following is a status check of recent and planned team activities.



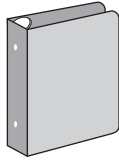
Budget & Prioritization

The objectives of the Budget & Prioritization Team are (1) to develop an understanding of the DOE-Oak Ridge Operations Environmental Management (EM) budget and the prioritization and sequencing processes and to serve as a focal point for public involvement in these matters; (2) interact with and informally advise DOE on matters relating to EM budget, prioritization, and sequencing; and (3) prepare recommendations for formal ORREMSSAB action. The current area of focus is the 1999 DOE budget process, and the team anticipates assisting DOE in hosting a public meeting on the FY 1999 EM budget.



Equity Issues

The Equity Issues team focuses on improving dialog among the DOE sites on issues such as waste management and budget. An integral element of team deliberations has been the Toxic Substances Control Act Incinerator and how it figures into management of low-level wastes across the DOE complex. Transportation of wastes between DOE sites (and especially to Envirocare in Utah and the Waste Isolation Pilot Plant in New Mexico) is another area of team concern. Discussions on both topics will be on the team's agenda in the coming months.



Federal Facility Agreement Appendix E Documents

In recent meetings the team has studied the Melton Valley Feasibility Study, the Melton Valley Proposed Plan and the Upper East Fork Poplar Creek Feasibility Study. Through study of these documents team members have become concerned about the lack of standards for radiological remediation levels on the Oak Ridge Reservation. The team drafted a recommendation on the subject and is working to refine it for presentation to the Board. If accepted, it will be forwarded by the Board to DOE.

In the coming months the team will be studying recommendations for the Bear Creek Watershed and Melton Valley Watershed and the remedial investigation/feasibility studies for the Bethel Valley Watershed and East Tennessee Technology Park.



Public Outreach

One of ORREMSSAB's most active teams, Public Outreach has expanded its efforts in 1998 to include public presentations to local organizations interested in DOE's EM activities (see story on page 5). Team outreach efforts include publication of the *Advocate* newsletter, maintenance of the Board's Web site, development of the Board's stakeholder survey (see story on page 6) and many other activities. Currently the team is focusing on its public presentation program, updating the look and expanding the content of the Web page, and developing new ways to inform and involve stakeholders in ORREMSSAB and DOE's EM decision-making processes.



Technology Development & Deployment

New technologies offer hope for solving some of our most vexing environmental management problems in innovative and cost-efficient ways. ORREMSSAB supports DOE's efforts to encourage emerging technologies and has designated the Technology Development & Deployment team as its vehicle for evaluating the wide array of new approaches to cleaning up and managing wastes.

In September 1998 the team drafted a recommendation encouraging DOE to take an incremental approach in using in situ vitrification on the Oak Ridge Reservation. The recommendation was approved by the Board and was forwarded to DOE. The team's next area of study is Melton Valley and the technologies proposed for use in that watershed.



Waste Cell Management

If built, the proposed on-site waste cell will have a lasting effect on Oak Ridge Reservation remediation. ORREMSSAB supports construction of the cell and made recommendations about the facility to DOE in March 1998. With preliminary work underway (see story on page 1), the team's task now is to study cell design and waste acceptance criteria. Associated with this task is evaluation of how draft DOE Order 435.1 will affect the facility. ORREMSSAB commented on the draft order in October 1998 and is awaiting word on how its comments will be addressed in the order. In the following months the team will turn its attention to more intensive study of cell design.



Steve Kopp, Public Outreach Project Team Leader (standing), and Peter Hillis, Co-Team Leader (seated at overhead projector) explain ORREMSSAB activities at a meeting of the Atomic Trades and Labor Council.

Public Outreach Team Delivers

From Scarboro to Kingston, from the Atomic Trades and Labor Council to the Oak Ridge City Council, the ORREMSSAB Public Outreach Team has taken its message on the road in recent months—letting stakeholders know what the Board has been doing, what lies ahead and what others can do to get involved in the process.

The team has developed presentation materials consisting of a video, portable display and slide presentation that cover such topics as Board mission, membership and recent recommendations. Depending on the audience and the time allotted, team presenters may use any or all of these materials at a given meeting.

In addition to the new focus on group presentations, the team manages a number of ongoing activities designed to get the word out and feedback in. These include the Board's annual report, a World Wide Web site (www.oakridge.doe.gov/em/ssab/), brochures and membership profiles, a recorded message line (423-576-4750) and toll-free number (1-800-382-6938) and this newsletter—the *Advocate*.

Team leader Steve Kopp emphasizes the Board's responsibility to communicate

with the public, beyond those who happen to be able to attend the Board's meetings. "The 'report-back' function is very important for any SSAB," says Kopp. "In order for us to truly represent stakeholders, we need to communicate with them frequently and directly—either through group presentations, newsletters, Internet and any other means at our disposal."

Kopp says that an important part of each activity is soliciting comments, questions and ideas from the public. Each presentation, for example, includes a question and answer session and information about how to get involved. All published materials include the message line number, the local and toll-free numbers to the SSAB support office and the Web address.

The team recently mailed a stakeholder questionnaire for the sole purpose of soliciting input on topics and issues to be addressed by the Board during its FY '99 work year (see related story).

"Getting good, broad-based input can only improve our output as a board," Kopp explains. "And it lets DOE know that our recommendations do in fact represent the broadest possible spectrum of public opinion and concern."

Recommendations and Comments on Draft DOE Order 435.1

continued from page 3

We found six issues of concern or question with the documents:

1. Without being able to review the Implementation Guide specified in the Notice of Availability and Section 6 of the Order, this package cannot be realistically evaluated since details of implementation will be critical to safe operation of waste disposal.
2. Covered storage of low-level waste (LLW) may prove to be extremely costly at the Oak Ridge Reservation without any added benefit if implemented in the strictest sense implied by the Order. Such a requirement should be based on risk estimates for the material and the storage interval under consideration. Consider, for example, lag storage associated with operation of an LLW facility.
3. Placement of wastes in covered and monitored enclosures may prove problematic and costly for our site if DOE-Oak Ridge Operations is unable to ship wastes to disposal facilities due to factors beyond its control.
4. The Order should address whether or not DOE Orders are applicable or relevant and appropriate regulations/requirements (ARARs) in the CERCLA context of this Order.
5. We note that Chapter V of DOE Order 5820.2A on decommissioning was not canceled, as were other chapters. This raises a question regarding its status and relation to 435.1.
6. The Order should address stewardship at waste disposal sites that will require maintenance and surveillance beyond the plausible life of DOE.

Meet the SSAB

ORREMSSAB members are chosen to reflect the diversity of gender, race, occupation, and interests of persons living near the Oak Ridge Reservation. Although Board members are appointed, service on the Board is entirely voluntary, and members devote many hours to Board activities with no compensation. In this issue of the *Advocate* we spotlight 5 of our 15 members. You'll meet more in future *Advocate* issues.

Joe Alexander

Joe is owner of Off Road Equipment Parts and is the former Vice President for Royal Brass and Hose in Knoxville. Since retirement from the distribution company, he has raised beef cattle in Loudon County. Joe lives in Knox County and is planning to build a home in Loudon County.



Jack Bowden

Jack is a Loudon County resident and a small business owner. He was the owner of Bowden Greenhouses for 35 years. He is retired from the U.S. Army Reserves (35 years) and is a self-employed beef cattle farmer. Jack served as the past president and is a current member of the Lenoir City Chamber of Commerce and is active in church.



Donna Campbell

Donna is a librarian for Foster Wheeler Environmental Corporation in Oak Ridge and is a resident of Harriman. Donna's background includes serving as an instructor of general biology, zoology and botany on the faculty at the College of William and Mary and as a librarian at several academic and public libraries.



Stakeholder Survey Response is In

by Peter Hillis, Public Outreach Co-team Leader

As part of a recent effort by the SSAB to gather information on what issues were uppermost in the minds of local citizens, a stakeholder survey was designed by the Public Outreach Project Team. Much thought was given on how to best solicit information that can help the Board members to connect with the public.

To make responding easy, it contained eight check-list boxes where respondents could mark areas of general interest in the Environmental Management Program. Additional space was provided for comments or other topics of concern. The survey form was easy to read, simple to understand, short and to the point and convenient to respond to.

The survey was sent in August to 501 individuals and 252 organizations. Of the 753 surveys sent out, 188 responses were received—an above average response for an unsolicited mailing. The information generated by the survey will be of great assistance to the Board, and we are pleased and encouraged by the response. It is our intent to continue the survey as we expand the Public Outreach effort to include and empower new groups and individuals.

ORREMSSAB STAKEHOLDER SURVEY RESPONSES

Topic	Number of Responses*	Percent of Total
Land & facility end use stewardship	111	59%
Treatment & disposal of waste	98	52%
Budget & Prioritization	93	49%
On-site waste cell construction	81	43%
Worker & community health concerns	76	40%
TSCA Incinerator	72	38%
Off-site waste disposal & transportation	71	38%
Waste import/export equity	60	32%

*Respondents could mark as many issues as desired

Randy Gordon

Randy is self-employed and runs Abco Screen-Print and Embroidery and Blue Springs Realty in Ten Mile. He served as a councilperson and vice-mayor for the city of Kingston, where he worked with EPA on several issues affecting the area. Randy served as ORREMSSAB Chair in FY 1997.



Demetra Nelson

Demetra is an Oak Ridge resident and works as a senior scientist (biochemist) for Radian International. She is a member of Spurgeon Chapel AME Zion Church, which is located in the heart of the Scarboro Community. She is also a member of Alpha Kappa Alpha Sorority Incorporated.



The Editor's Desk

by Rikki Traylor

An important part of ORREMSSAB's mission is to serve as a communications link between the public and DOE. To achieve that goal we solicit stakeholder involvement in our meetings, we make presentations to the public about ORREMSSAB and DOE issues, and we send out this newsletter, just to name a few of the things we do. As part of our outreach efforts, we recently sent a stakeholder survey to those of you on the *Advocate* mailing list to find out what issues concerning DOE's EM Program are most important to you.

The response to our survey was better than expected, and we thank each of you who took time out of your busy day to reply. As you can see from the results shown in the story on page 6, "land and facility end use stewardship" was the top vote getter, followed closely by "treatment and disposal of waste" and "budget and prioritization."

The survey results give ORREMSSAB direction about how to proceed in our efforts to provide comments and recommendations to DOE. But what do the results tell us beyond that?



Two messages are immediately apparent to me: (1) people in Oak Ridge and the surrounding areas are

highly concerned about not leaving our problems for future generations to live with or to try to solve and (2) we've learned the hard way that while our environmental problems seem unlimited, money isn't, and priorities have to be set to achieve the most important goals first.

While it is important to focus on the specifics of any project (and trust me, we do a lot of that at ORREMSSAB) it is encouraging to know that our community is not satisfied with quick-fix, short-term solutions to long-term problems. Certainly, specific projects and the details of those projects—such as the TSCAI and the on-site waste disposal cell—are important "hot topics" today, but stakeholders are insisting that today's decisions be based on a commitment to safeguard the financial and physical health of future generations.

The *Advocate* is published by the Oak Ridge Reservation Environmental Management Site Specific Advisory Board. Please send your questions and comments to

Oak Ridge Reservation Environmental Management
Site Specific Advisory Board
P.O. Box 2001, EM90
Oak Ridge, TN 37831
attn: Rikki Traylor, Editor

To add your name to or remove it from our mailing list, to advise us of a change in address, or for additional copies of the *Advocate*, write us at the above address, call the SSAB Support Office at 423-241-3665, 423-576-1590 or 1-800-382-6938, or e-mail us at osbornepl@oro.doe.gov.

Get Involved!

You can make a difference in DOE's Environmental Management Program by learning more about relevant issues and voicing your opinions. ORREMSSAB offers a variety of ways to help citizens to get involved:

- Attend ORREMSSAB project team and Board meetings. All meetings are open to the public, and interested stakeholders are encouraged to participate in discussions. Meeting dates, times and locations are available in local newspapers, at the Information Resource Center (423-241-4582) and by calling the Board's 24-hour information line: 423-576-4750.
- Surf our Web site at <http://www.oakridge.doe.gov/em/ssab/> for information about ORREMSSAB and links to other sites.
- Ask us to make a presentation to your group or organization. For information, call the ORREMSSAB Support Office at 423-241-3665 or 423-576-1590.

SSAB Annual Report NOW AVAILABLE

To receive a copy of the *ORREMSSAB Annual Report for Fiscal Year 1998*, write or call us using the address and phone numbers shown left.



FY 1998 Recommendation Roundup

Following is a list of the recommendations submitted to DOE-ORO during FY 1998. Complete text of all recommendations is available at the IRC. Recommendations 4, 5, 8, 9, 13, 14 and 15 were generated by the End Use Working Group—an independent group formed by ORREMSSAB in early 1997 to study future uses for contaminated areas on the ORR.

Recommendation	Date Issued
1) TSCA Incinerator Waste Streams Management	10/1/97
2) Sequencing of EM Activities on the ORR	11/5/97
3) Conduct of an ORR Health Effects Study	12/3/97
4) Community Guidelines for End Use of Contaminated Properties on the ORR	1/7/98
5) End Use Recommendation for the Disposal Areas in Melton Valley	1/7/98
6) DOE's Social, Economic, and Cultural Category	3/4/98
7) On-Site Waste Disposal Facility on the ORR	3/4/98
8) End Use for Contaminated Lands in Bethel Valley Area of ORNL	3/4/98

9) End Use for Bear Creek Valley West of the Y-12 Plant	3/4/98
10) Accuracy in Describing Relationships Between Oak Ridge Reservation, City of Oak Ridge, and Surrounding Populated Areas	4/1/98
11) Draft Accelerating Cleanup Paths to Closure, Dated February 1998	4/1/98
12) Comments and Recommendations on the Bear Creek Valley Feasibility Study and Proposed Plan	5/6/98
13) End Use Recommendations for Y-12 Plant, Chestnut Ridge, and Upper East Fork Poplar Creek	6/3/98
14) End Use Recommendation for Sites Not Included in Existing Watersheds	7/8/98
15) End Use Recommendation for East Tennessee Technology Park	7/8/98
16) Approval of the End Use Working Group's Final Report	8/5/98
17) Approval of the End Use Working Group's Stakeholder Report on Stewardship	8/5/98
18) Use of In Situ Vitrification on the ORR	9/8/98

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